

CLAIMS

1. Transmission shift system comprising a synchronizing device for idler wheels, which comprises at least one sliding sleeve that can mesh with a selected idler wheel, wherein said sliding sleeve is arranged non-rotatably and axially displaceable on a shaft, with hydraulic actuation being provided, characterized in that each sliding sleeve (6) is connected with the shaft (1) via a hub element (7), wherein the synchronizing operation can be implemented as a function of the hydraulic actuation pressure.

2. Transmission shift system pursuant to claim 1, characterized in that the hub element (7) comprises a catch device, which enables an axial movement of the sliding sleeve (6) at a predetermined actuation pressure P_s .

3. Transmission shift system pursuant to claim 2, characterized in that the catch device comprises a ball-spring unit, which comprises a ball (9) that is guided in a bore in the hub element (7), which can be guided into a catch groove (3) of the sliding sleeve (6) by the spring force of a spring element (9), so that the sliding sleeve (6) is blocked in the axial direction.

4. Transmission shift system pursuant to one of the above claims, characterized in that the idler wheel (2) to be shifted is arranged in a frictionally engaged manner for the purpose of adjusting the RPMs between two disk elements (4, 5), wherein the required clamping force for the disk elements (4, 5) can be applied by the actuation pressure that is present on the sliding sleeve (6).

5. Transmission shift system pursuant to one of the above claims, characterized in that in a non-switched state the actuation pressure is equal to the pressure (P_0) at which no axial movement of the sliding sleeve (6) is possible, that for the purpose of RPM adjustment the actuation pressure is raised to the pressure (P_1), wherein a slight axial displacement of the sliding sleeve (6) for the RPM adjustment is possible, and that the actuation pressure is increased to the pressure (P_s) to release the sliding sleeve (6), wherein the sliding sleeve (6) can be displaced axially in such a way, that the sliding sleeve (6) and the idler wheel (2) can mesh with each other.

6. Transmission shift system pursuant to claim 5, characterized in that the actuation pressure assumes a value (P_s) that is smaller than the actuation pressure (P_2) for the synchronizing operation and greater than the actuation pressure (P_1) for the RPM adjustment.

7. Transmission shift system pursuant to one of the above claims, characterized in that an actuating piston (10), which is connected with an oil supply system (12), is provided for the hydraulic actuation of the sliding sleeve (6).

8. Transmission shift system pursuant to claim 7, characterized in that the actuating piston (10) can be brought into its starting position by means of a return spring (11).

9. Transmission shift system pursuant to one of the above claims, characterized in that an additional brake plate (13) is provided for the purpose of RPM adjustment.

10. Transmission shift system pursuant to claim 9, characterized in that the additional brake plate (13) is provided non-rotatably on the shaft (1) between the disk element (5) and the hub element (7).

11. Transmission shift system pursuant to one of the above claims, characterized in that the respective friction surfaces of the disk elements (4, 5) and the brake plate (13) are coated with a suitable material.